

*PHLOX PILOSA* L. VAR. *LONGIPILOSA* (WATERFALL) J. & C. TAYLOR COMB. NOV. (POLEMONEACEAE).—Based on *Phlox longipilosa* Waterfall, *Rhodora* 73: 576–577. 1971. TYPE: U.S.A. OKLAHOMA. Kiowa Co.: northern slopes of granite mountains south of Lake Altus, 29 May 1957, *Waterfall 13134* (HOLOTYPE: OKLA).

*Phlox longipilosa* is listed as an endangered species by Ayensu and De-Filipps (Endangered and Threatened Plants of the United States, 1978) and as a taxon currently under review for listing on the National List of Endangered or Threatened Species (Federal Register 45(242): 82529. 1980).

In the original description of the species, Waterfall notes that Wherry (The Genus *Phlox*, 1955) treats this material as *Phlox pilosa* ssp. *latisepala* Wherry, and he deals with the separation of *P. longipilosa* and *P. p.* ssp. at length. However, Wherry actually states that only transitional forms of *latisepala-pilosa* occur west to Mangum in southwestern Oklahoma. He also maps and states that *P. p.* ssp. *riparia* Wherry is disjunct in southwestern Oklahoma and cites Granite as a location. His map of *P. p.* ssp. *pilosa* includes southwestern Oklahoma; and some specimens from the granite area of the Wichita Mts., annotated as such by Wherry, are at OKL. In 1970, Wherry (*Castanea* 35:198) reports a specimen from Lake Altus as *P. p.* ssp. *fulgida* Wherry, which extended the range of this northern nonglandular variant south and westward into Oklahoma. Based on Wherry (1955, 1970) and Waterfall (1971) there should be 5 taxa of *Phlox* (*P. longipilosa*, and *P. pilosa* ssp. *pilosa*, ssp. *riparia*, ssp. *fulgida*, and ssp. *latisepala*) within a 15 mile long area on the granite outcrop in Kiowa and Greer Counties of Oklahoma.

We agree with Waterfall that this southwestern phlox on the granite is a distinct taxon having a unique combination of characters: long, abundant, jointed, pilose hairs on the calyx, leaves, and inflorescence stems; shorter glandular hairs on the inflorescence branches and on the calyx. This plant has linear opposite leaves that become alternate in the inflorescence (rarely all leaves alternate). The numerous stems per plant have congested leaves with short internodes usually 1 to 2 cm. long.

We also agree with Wherry that the granite phlox falls well within the spectrum of variation found in the *Phlox pilosa* complex and appears to us to be most closely related to *P. p.* var. *pilosa*. It most likely represents a surviving remnant of *P. p.* var. *pilosa* which became adapted to the granitic soils and remained as a relict when the drying of climate caused the eastward withdrawal of *Phlox* from western Oklahoma.

Based on field work funded by the U. S. Fish and Wildlife Service, and examination of specimens at DUR, MO, OKL, OKLA, and SMU, we have determined there is a single variable taxon occurring on the granite soils of the Wichita Mountains of southwestern Oklahoma and that it is presently

geographically isolated from taxa of the genus *Phlox*. It is restricted to a 15 mile long area at the west end of the Wichita Mountains located in Kiowa and Greer counties, and has not been relocated in Comanche Co. where it was collected once in 1937.—R. John Taylor and Constance E. S. Taylor, Southeastern Oklahoma State University, Durant, OK 74701.

ADDITIONS TO THE FLORA OF TENNESSEE—Surveys of aquatic and wetland plants of the Tennessee Valley have resulted in the collection of taxa previously undocumented for Tennessee. These include *Najas gracillima* (A. Br. ex Engelm. in Gray) Magnus, *Cyperus difformis* L., *Eleocharis tortilis* (Link) Schult., and *Hydrocotyle umbellata* L. Collection data and the location of voucher specimens are listed below with some general comments on their ecology and distribution.

NAJAS GRACILLIMA (A. Br. ex Engelm. in Gray) Magnus. Cumberland Co.: abundant in lake at Cumberland State Park near Crossville, 29 Jul 1980, *Dennis & Morgan 2412* (FSU, TENN, VDB); Greene Co.: small pond in the bottom of sink in pasture field on the E side of US 411 near Caney Branch, 2.5 mi SW of where US 411 crosses the Nolichucky River, 11 Aug 1980, *Webb & Price 3259* (FSU, TENN, VDB); Henderson Co.: Pine Lake in Beech River Project near Lexington, 27 Sep 1978, *Fielding 2052* (TENN); Jefferson Co.: Dalton Lake, ca 6 mi E of Danridge, 23 Jul 1970, *Bates s.n.* (TENN). Although this species is reported from Grundy and Hardeman counties by Robinson and Shanks (1959), *N. gracillima* was not attributed to the State in the revisionary study by Haynes (1979). The specimen from Grundy County has been determined to be *N. minor* and no specimen was located at TENN to substantiate the report from Hardeman County. The collections reported here are from a variety of physiographic provinces and document the species to be an element of the Tennessee flora.

CYPERUS DIFFORMIS L. Meigs Co.: mudflats on Hiwassee Island on Chickamauga Reservoir at TRM 500.0; ca 5 mi N of Birchwood, Tn., 28 Oct 1980, *Webb & Murphy 3696* (FSU, TENN, VDB). The distribution of this species has recently been discussed by Lipscomb (1980) who lists the species from four other southeastern states. *Cyperus difformis* is currently widespread along Guntersville and Wheeler Reservoirs in northern Alabama and has expanded its range into eastern Tennessee. Our observations indicate that the drawdown zone along reservoir margins provides an excellent habitat for the species which in some instances becomes "weedy", excluding native taxa.

ELEOCHARIS TORTILIS (Link) Schultes. McNairy Co.: swampy area on the E side of US 45, 3.9 mi N of jct. of US 64 and US 45 (in Selmer) near Bethel Springs, 20 Jun 1979, *Webb, Dennis, & Price 2030* (FSU, TENN,